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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/695,335	10/28/2003	Jeffrey P. Gambino	BUR920010040US2	4853

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EXAMINER	
RAO, SHRINIVAS H	

ART UNIT	PAPER NUMBER
2814	

DATE MAILED: 01/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/695,335	GAMBINO ET AL.	
	Examiner	Art Unit	
	Steven H. Rao	2814	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 November 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *13-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) *13-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *28 October 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Acknowledgement is made of papers filed under 37 CFR1.114 , claiming priority from U.S. Serial No. 10/695,335 filed on October 28, 2003 Therefore currently the earliest available filling date is October 28, 2003.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114.

Applicant's submission (RCE request and preliminary amendment) filed on November 01, 2005 has been entered.

Therefore claims 13 as amended by the preliminary amendment and claims 14-20 as previously recited are currently pending in the Application.

Information Disclosure Statement

No further IDS after the one filed 9/27/2004 has been filed in this case.

Claim Rejections - 35 USC # 1 02

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless - (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale

in this country, more than one year prior to the date of application for patent in the United States.

13-18 + 20

Claims ~~13-20~~ are rejected under 35 U.S.C. 102(b) as being anticipated by Augusto (U.S. Patent No. 5,963,800 herein after Augusto) (previously applied) OR Yu (U.S. Patent No. 6,787,402, presently newly applied).

With respect to claim 13 , Augusto/Yu describes a double-gated/ double channel FIN metal oxide semiconductor field effect transistor (MOSFET) comprising:

It is noted that Applicants' have ONLY recited "a double-gated/ double channel FIN metal oxide semiconductor field effect transistor (MOSFET)" only in the preamble of claim 1 and all dependent claims .

Further current U.S. Law requires the recitation "a double-gated/ double channel FIN metal oxide semiconductor field effect transistor (MOSFET)" has not been given patentable weight because it has been held that a preamble is denied the effect of a limitation where the claim is drawn to structure and the portion of the claim following the preamble is a self-contained description of the structure not depending upon for completeness upon the introductory clause . Kropa V Robie 88 USPQ478 (CCPA 1951).

Therefore the recitation "a double-gated/ double channel FIN metal oxide semiconductor field effect transistor (MOSFET)" has not be given patent able weight.

a bottom Si-containing layer, (Augusto col. I0 lines 3-5) (Yu fig. 1 #12) an insulating region present atop said bottom Si-containing layer, (Augusto fig. 3 # 5,7 col.

1 1 lines 29-46) (Yu fig.1 #14) said insulating region having at least one partial opening therein, (Augusto figure 3 # 5) (Yu col. 3 lines 25-35, 38-40- buried stack) a gate region in said partial opening, (Augusto fig. 3 # 13) (Yu figure 4, col. 3 lines 25-40) said gate region comprising two regions of gate conductor that are separated from vertical channel regions by an insulating film, (YU figure 6, col. 3 lines 60-65) (Augusto fig. 3 # 13 separated from 3 by 1 1, vertical channel- title etc.) said insulating film comprising a gate dielectric and having opposite vertical surfaces adjacent to the channel regions, (Augusto e.g. figure 3 gate insulator # 11) (Yu figures 3-5 etc.) source/drain diffusion regions abutting said gate region, (Augusto figure 3 # 5',7' (source) and # 1' (drain) abutting gate 13, col. 2 lines 38-40) (Yu figure 6 , etc.)said source/drain diffusion regions having junctions that are self-aligned to the vertical fin-shaped silicon containing channel regions and the gate region, (Augusto e.g. figure 3 # 5',7' (source) and #1',15 (drain) self-aligned with channel 3, 31) (Yu figures 3-6 etc., Abstract lines 5-6) and insulating spacers in said partial opening that separate the gate region and the source/drain diffusion N region formed orthogonal to said insulating film. (Augusto figure 3 spacer not numbered orthogonal to gates 13) (Yu figures 3-6 , etc.) and wherein said gate region is between said insulating spacers (Augusto figures) (Yu figures 6 etc. and the gate region is self-aligned to the source/drain diffusion regions and vertical channel regions. (Augusto e.g. figure 3 # 5',7' (source) and #1',15 (drain) self-aligned with channel 3, 3, col. 2 lines 38-40, col. 12 lines 41-46). (Yu figures 3-6 etc.)

With respect to claim 14 Augusto describes the Fm MOSFET of Claim 13 wherein said insulating region includes an insulating layer of an SOI material. (Augusto col. 25 lines 65-66). (Yu col.3 , line 21 etc.)

With respect to claim 15 Augusto describes the Fin MOSFET of Claim 13 wherein said partial opening exposes a portion of said insulating layer of said Sol material. (Augusto figures 9.4, 15.1,. etc.) (Yu col. 3 lines 25-35, 38-40- buried stack and col. 3 line 21-SOI).

With respect to claim 16 Augusto describes the Fin MOSFET of Claim 13 wherein said insulating film is formed surrounding a portion of a Si-containing layer. (Augusto figure 9.4, 15.1 insulators on sides) (Yu figures 3-5 etc.)

With respect to claim 17 Augusto describes the Fm MOSFET of Claim 16 wherein said gate dielectric is comprised of an oxide, a nitride, an oxy nitride or any combination or multi layer thereof. (Augusto figure 15.1 , col. 27 lines 5-65). (Yu col.3 line 24 , etc.)

With respect to claim 18 Augusto describes the Fm MOSFET of Claim 13 wherein said regions of gate conductor are each comprised of polysilicon, amorphous Si, a conductive elemental metal, an alloy of a conductive elemental metal, a nitride or silicide of a conductive elemental metal or multi layers thereof. (Augusto col. 6 line 50 and PMOS or NMOS by definiation is a metal gate, figure 8.3 etc.) (Yu col. 3 lines 46-50).

With respect to claim 20 Augusto describes the Fm MOSFET of Claim 13 wherein said source/drain diffusion regions are formed in a portion of a patterned Si-

containing layer. (Augusto figure 7 (s) and (d) formed in patterned Si containing layer). (Yu figures).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Augusto (U.S. Patent No. 5,963,800 herein after Augusto) as applied to claims 13-18 and 20 above .

With respect to claim 19 Augusto describes the Fm MOSFET of Claim 13 further comprising silicide regions formed atop said source/drain diffusion regions. (Augusto . col. 6 line 50). (well known in the art to from silicide layers atop source/drain e.g. 5,315,144; 6,656,824)

Response to Arguments

Applicant's arguments filed 11/01/2005 have been fully considered but they are not persuasive for the following reasons.

Applicants contention that their claims recite double gated/ double Channel FIN MOSFET is technically correct but the recitation is in the preamble and cannot be given patent weight.

The Examiner emphasis MPEP 211.02 for the lack of limiting of limiting effect of the preamble of claim 13 for example " double gated/ double Channel FIN MOSFET" in the preamble of claim 13 is not referred to by any of the elements of the body of the claim, so MPEP 211.02 indicates that the phrase "double gated/ double Channel FIN MOSFET" of the preamble is properly not given patentable weight.

Therefore Applicants' arguments are not conemsurate in scope with their arguments.

If Applicants' desire to distinguish their claims on this basis they must recite it in the body of the claim .

However as shown in the rejection above the presently newly applied reference Yu anticipates the presently recited claims even assuming the above suggested incorporation.

The vertical fin-shaped silicon containing channel is disclosed by the applied prior art. references.

Therefore all of Applicants' arguments are not persuasive and the all claims 13-20 are rejected.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven H. Rao whose telephone number is (571)272-1718. The examiner can normally be reached on 8.00 to 5.00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Fahmy Wael can be reached on (571) 272-1714. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Steven H. Rao

Patent Examiner

January 06, 2005.

LONG PHAM
PRIMARY EXAMINER

LONG PHAM
PRIMARY EXAMINER